REMARKS

Applicants thank the Examiner for consideration given the present application. Claims 1-7, 9-18, 20-22, 24, 25 and 27 are presently pending. Claims 8, 19, 23 and 26 had been previously canceled. Claims 1, 11, 22, 24, 25 and 27 are independent. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

Information Disclosure Statement

Applicants respectfully request that the Examiner provide initialed copies of the SB-08 of the Information Disclosure Statement submitted on August 23, 2007 and May 27, 2008. The Examiner has notified Applicants that the IDS filed on August 23, 2007 can not be found in PAIR, so for the convenience of the Examiner Applicants are submitting a copy of the Information Disclosure Statement that was previously filed on August 23, 2007.

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter, "a second direction perpendicular (claims 1, 11, 22, 24, 25 and 27)" (*See Office Action, Page 2*). More specifically, the Examiner asserts that the specification does not clearly disclose "a second direction perpendicular to the first direction" (a distance between a stroke and the overlapping pixel) as recited in claims 1, 11, 22, 24, 25 and 27 (*See Office Action, Page 2*). This objection is respectfully traversed.

As discussed in the specification on Page 33 and on, the first and second directions are on the X and Y axes, which are necessarily perpendicular to each other. Also, there is, at the bottom of Figure 2, a diagram showing that two directions are in fact perpendicular to each other. It should be clear to one skilled in the art that such directions are perpendicular to each other.

Moreover, the second distance is used to set a second color element level for a second subpixel(s) successively arranged in the X direction to the first subpixel (having the first color element level set) (i.e. the second subpixel is a subpixel that has the same Y-value coordinate as

the first subpixel (*See Page 44 of Applicants' Specification*), thus the second distance is the distance between the first subpixel and the second subpixel, and the X-direction line width of a stroke input via input device (*See Page 44-45 of Applicants' Specification*).

Thus, it is respectfully requested that this objection to the specification be withdrawn.

Claim Rejections Under 35 USC §103 – Liao, Di Federico, Drewry

Claims 1-7, 9-18, 20-22, 24, 25 and 27 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Liao et. al. ("Liao", US 2004/0075660 A1) in view of Di Federico et. al. ("Di Federico", US 2005/0226538 A1) and further in view of Drewry ("Drewry", US 5,748,178). This rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, " . . . **setting a second color element level for a subpixel near the subpixel having the set first color element level, based on a second distance between the subpixel having the set first color element level and the near subpixel in a second direction perpendicular to the first direction and the set first color element level**". Independent claims 11, 22, 24, 25 and 27 similarly express this feature.

None of the cited references teach the above-mentioned consideration. In the outstanding office action, the Examiner relies on the disclosures of a combination of Liao in view of Di Federico in view of Drewry to assert the obviousness of the above-mentioned feature.

In particular, the Examiner relies on the disclosure of cited reference Drewry which, according to the Examiner, describes:

> an anti-aliasing method that blends colors based on the distance of neighboring pixels. Further Drewry teaches assigning smaller waeightings to pixels that are farther away. The distance of neighboring pixels is the equivalent to the "second distance" used for setting a blending value ("a second color element level"). *See Column 1, Line 48-Column 2, Line 8)*

This same passage of Drewry does describe that:

> The convolution filter itself is generally a set of weightings applied to neighboring pixels . . . an exemplary convolution filter would generally specify relatively smaller weightings for pixels as one moved in a direction away from the current pixel of interest. In other

words, the farther away a pixel is from the current pixel of interest, the less blending it would undergo. *See Column 1, Line 67-Column 2, Line 8*

However, in doing so, the Examiner categorically ignores the additional disclosure of Drewry, which clearly states that "the technique works by applying a convolution filter to *all* of the pixels" (*emphasis added*) (*See Column 1m Lines 65-66*). That is to say, that the convolution filter of Drewry is applied indiscriminately to any pixels in any direction based on a set weighting scheme. This is different from the claimed invention on at least two following points:

(a) by applying the convolution filter of Drewry to all of the pixels, the feature of "setting a second color element level for a subpixel near the subpixel having the set first color element level, *based on a second distance between the subpixel having the set first color element level and the near subpixel in a second direction*" is not disclosed (*emphasis added*). The claimed invention clearly does not indiscriminately apply a filter to every pixel, but rather the step of setting a second color element level for a subpixel is applied <u>based on</u> a second distance between a subpixel and another <u>having the set first color element</u>.

The convolution filter of Drewry, on the other hand, simply applies a filter to everything. Therefore, the computational burden is greatly increased for the increased number of calculations to be performed. Since the Examiner relies on Drewry only to disclose the above-mentioned feature, it is clear that none of the cited references are considered to disclose setting a second color element level for a subpixel near the subpixel having the set first color element. In particular, Liao discloses only of setting a first color element based on distance from a line width and similarly, Di Federico discloses only anti-aliasing performed around a text skeleton.

The above-configuration that the second color element level for a nearby subpixel is performed only for subpixels having the set first color element is instrumental in providing a character display apparatus which can advantageously control the color element level of each subpixel quickly and with high definition and without a large amount of working memory.

The Examiner also states that "since Drewry teaches efficient rendering of lines on a video image. Clearly, as suggested by Di Federico, one of ordinary skill of the art can apply the teaching of Drewry to characters that comprise of lines on a video image". This assertion is insufficient. The Examiner cites paragraph [0071] of Di Federico as evidence, but the description of said passage only teaches an "adaptive interpolator 112 [which] performs an anti-

aliasing operation which is performed once the output text 'skeleton' has been built, in order to generate some gray level pixels around the characters". Therefore, the combined teachings of Di Federico and Drewry would only disclose of apply the convolution filter of Drewry to the text skeleton. This is clearly different from the claimed invention, which sets the second color element level in relation to all subpixels that have a first color element level. Clearly the subpixels having a first color element level are not limited simply to the text skeleton. Accordingly, the presently claimed invention also produces characters which have a higher definition than any invention formed from a combination of cited references Di Federico and Drewry. Thus, the presently claimed invention is patentably distinct from all cited references.

(b) In the outstanding Office Action. The Examiner has not addressed the feature in the presently claimed invention of "perpendicular to the first direction". This is because the cited references cannot possibly teach this feature, alone or in combination. More specifically, the Examiner relies on Liao to disclose setting a first color element level, and Drewry to disclose setting a second color element level. Therefore, it appears that the Examiner is implicitly asserting that it is possible for the combination of Liao and Drewry to disclose of processing pixels in a first direction using the technique of Drewry in a second direction perpendicular to the first. This is impossible.

Figure 3c of Drewry is described as "a diagram illustrating the application of a filter template to image for achieving a desired filter effect, such as anti-aliasing" (*See Column 4, Lines 29-31, which is further described in Column 7, Line 55-Column 8, Line 6*). Clearly it can be seen that the technique of Drewry is not limited to a single dimension, but rather is intended to be applied to a plane. Consequently, only one of two interpretations is possible:

(i) Cited reference Drewry simply does not disclose of a single direction, and therefore cannot disclose processing one direction at a time as per the claimed invention; OR

(ii) The "direction" of Drewry refers to a radial direction originating from a subpixel, defining a plane in space. If this is indeed the correct interpretation, it is clear that the only direction perpendicular to a plane in space would be normal to the surface of the display device. This is clearly not discussed in Liao and not useful in any device.

Consequently, the currently claimed invention simply cannot arise from a combination of the prior art of record. Significantly, the pixels in the present invention are first processed in a first direction based on their proximity to the basic portion of the character and then subsequently processed in a second direction orthogonal to the direction already processed. In such a manner, it is possible to realize a character display apparatus, which can advantageously control the color element level of each subpixel quickly and with high definition and without a large amount of working memory.

Moreover, the Examiner also contends, on Page 11 of the Office Action, that one skilled in the art would recognize that Drewry is applied to character drawing. The Examiner asserts that Drewry is applied to lines on a video image, as in Di Federico. However, there is no reason to apply Drewry to *characters* as in the instant invention. The Examiner asserts, on Page 11 of the Office Action, that Panaro ("Panaro", U.S. 5,731,839) shows font with a "blocky nature" in Figure 5 which is comprised of lines only and therefore, "fonts with blocky features do not increase the size of Liao's index table". There is insufficient support for the Examiner's conclusion that the size of Liao's index table is not increased as applied to the instant invention. Fonts with a "blocky nature" do not compare to characters as disclosed in the application. Moreover, there is no passage discussing an index table in Panaro or Liao. Thus, it is respectfully requested that the Examiner produce a reference to show that Liao's index table is not increased and therefore the *Examiner's implied use of Official Notice is hereby challenged*.

For at least the reasons stated above, independent claims 1, 11, 22, 24, 25 and 27 are patentably distinct from Liao, Di Federico and Drewry. Claims 2-7, 9, 10, 12-18, 20 and 21 are at least allowable by virtue of their dependency on corresponding allowable independent claim.

Accordingly, it is respectfully requested to withdraw this obviousness rejection of claims 1-7, 9-18, 20-22, 24, 25 and 27 based on Liao, Di Federico and Drewry.

<div align="center">Conclusion</div>

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Charu K. Mehta, Reg. No. 62,913

at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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